Vinny (Vinicius) Lima

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Qualification Summary:	- Current PhD student in Computer Information Technology at Purdue University, with emphasis in Data Science and Computational Science and Engineering. - Research focus on the interdisciplinary studies between Machine Learning, Criminology, and Criminalistics. - Head of the Forensic Accident Sector for 2 years, leading a team of 25 forensic analysts. - Law Enforcement with 9 years of experience, certificated in Forensic Sciences. Ranked 29th in the Police Academy selection process.. - Leadership and Management scholarship earned from the Federal District Government to study at the University of Applied Sciences, Austria.

PROFESSIONAL EXPERIENCE

Purdue University, West Lafayette, IN, USA.
Teaching Assistant, 2023 - present
Responsible for conducting lab activities of the Data Visualization course (undergraduate), such as lecture and monitor assignments.

Feeding America, Chicago, IL, USA.
Data Analyst Intern, 2023.
Supported the Supply Chain Team with insights and data analysis for decision-making. Projects developed with Tableau and Python.

Purdue University, West Lafayette, IN, USA.
Research Assistant, 2021 - present
Funded student working in the Polytechnic's Data Visualization Lab, collaborating in research projects in domains such as Health, Education and Criminal Justice. Advisor: Dr. Byrd.
Supported Dr. Bertoline in the Grant Proposal Project "Engineering the Inclusive Mindset for the Future: A Blueprint for Systemic Change in Engineering Education"
Worked in the NIJ funded cybersecurity project: Filetsar+. Advisor: Dr. Yang (Summer 2022 - Fall 2022).

Federal District Civil Police, Brasília, DF, Brazil,
Crime Scene Analyst, 2013 - 2015
- Public Servant, responsible for collecting and examining criminal evidence, analyzing the overall crime scene, and producing final report (about 78 crime scene cases).

Traffic Accident Reconstructionist, 2015 - 2021
- Responsible for reconstruction and analysis of severe traffic accidents and delivering the conclusion report (in charge of more than 1400 accidents).
- **Head of the Sector** from 2019 to 2021, leading a team of 25 forensics experts.
- Outstanding accomplishments: First Data Visualization Application to identify patterns in accidents; Volunteering Team to lecture about Accident Prevention among low-income high schoolers.
- Tutored two undergraduate students in the research "Intelligent Approach for Vehicle Accidents in the Federal District," funded by Fundação de Apoio à Pesquisa do DF.
- Honors: Fundação de Peritos em Criminalística Ilaraine Acácio Arce, awarded in 2016 for the services within the Brazilian Forensic Community.

BRASA (remote).
Data Analyst, 2022.
Database management and data visualization applications to improve internal work. BRASA is an NGO that aims to empower Brazilian students who live outside the country.

Estrategia Concursos, Sao Paulo, SP, Brazil.
Instructor, 2018 - 2021.
Responsible for creating ebooks and lecturing online classes in the disciplines of Data Mining, Computer Communication Networks, Operational Systems, Digital Forensics, and Telecommunications for government selections in Brazil (public exams). The company is considered one of the top in Brazil in the area of public exam preparation.

University of Brasilia, Brasília, DF, Brazil.
Research Assistant, 2012 - 2013
Collaborated with a team of researchers led by Professor Rafael Timóteo, developing a Web-based system for Human Resources in the Federal Government Administration.

Oi (Telecommunication Company), Brasília, DF, Brazil
Internship, 2010
Database management and analysis of enterprises' communication network contracts.

EngNet (Undergraduate Student's Company), Brasília, DF, Brazil.
Internship, 2008 - 2010
Contributed to the team of web designers, focusing mainly on the user interface.

EDUCATION

Polytechnic Institute, Purdue University, West Lafayette, IN - USA.
Ph.D. in Computer Information Technology, Expected degree completion: May 2025.
- Research Focus: Patterns in Forensic Evidence through Natural Language Processing.
- Main Coursework: Statistics, Machine Learning, Deep Learning, Natural Language Processing, Criminology, Forensic Sciences.

Engineering Department, University of Brasilia, Brasilia, Federal District
Master in Electrical Engineering, with an emphasis in Computer Forensics, January 2017.
- Thesis: Accelerometer and Gyroscope Propose to Improve Forensic Work in Brazil.
- Coursework: Machine Learning, Cryptography, Digital Forensics, Operational Systems, Intelligent Systems, Forensics Sciences.

Federal District Civil Police Academy, Brasilia, Federal District, Brazil
Specialization in Forensic Sciences, October 2012.
- Coursework: Criminalistics, Ballistics, Crime Scene Evidence, Forensic Chemistry, Forensic Biology, Digital Forensics, Forensic Engineering, Accident Reconstruction, Document Analysis, and Chain of Custody.

Engineering Department, University of Brasilia, Brasilia, Federal District, Brazil
Bachelor in Network Engineering, July 2011
- Concentration in: Telecommunications and Network Communication Technologies.

Complementary Education
- ➢ Data Science: Machine Learning (online), EDX, 2020.
- ➢ Symposium on Traffic Safety (32h), Institute of Police Technology and Management (IPTM), Orlando, 2018.
- ➢ Leadership and Public Management for Smart Cities (160h), University of Applied Sciences (IMC), Krems an der Donau, Austria (Sponsored by the Federal District Government), 2014.

- ➢ Database Systems (online, 180h), Fundação Brasileira de Educação, FUBRAE, 2012.
- ➢ Specialization in Hardware (online, 180h), Cursos Virtuais, 2012.
- ➢ Specialization in T.I. Management for the Public Administration (online, 180h), Faculdade Omni, OMNI, 2012.
- ➢ Specialization in Network Architecture (online, 180h), Fundação Brasileira de Educação, 2012.

PUBLICATIONS AND PRESENTATIONS

Papers
LIMA, V.; Almeida de Oliveira, J.
Identifying Risk Patterns in Brazilian Police Reports Preceding Femicides: A Long Short Term Memory (LSTM) Based Analysis.
13th IEEE Global Humanitarian Technology Conference (GHTC)
Knowledge areas: Natural Language Processing, Feminicide, Domestic Violence, Deep Learning.

LIMA, V.; Byrd, V.
Insights and Hotspot Prediction of Severe Traffic Accidents in the Federal District of Brazil.
12th International Conference on Smart Cities, Systems, Devices and Technologies
Knowledge areas: Data Science, Machine Learning, Traffic Accidents.

LIMA, V. O.; Gois, J.M.V.A.; Silva, F. T.A
Forensic Intelligence Approach On Traffic Accidents In The Brazilian Federal District.
26th International Conference on Urban Transport and the Environment, WIT Press, 2020.
Keywords: business intelligence, accident reconstruction, forensics.
Knowledge areas: Computer Forensics, Forensics Sciences, Data Analytics, Big Data.

LIMA, V. O.; Zelenovisky, R.
Accelerometer and Gyroscope Proposal to Improve Forensic Work in Brazil.
Revista Brasileira de Criminalística, 2017.
Keywords: airbag, module, accelerometer, gyroscope, black box, traffic accident, forensics, accident reconstruction.
Knowledge areas: Computer Forensics, Computer Architecture, Electric Engineering.

Presentations
Insights and Hotspot Prediction of Severe Traffic Accidents in the Federal District of Brazil.
Oral and Poster Presentation, BRASA Summit 2022, Chicago, USA. (Awarded best pitch presentation)
Keywords: traffic collision, machine learning, crash reconstruction, accident prediction.
Knowledge areas: Data Science, Traffic Reconstruction.

A Forensic Intelligence Approach On Traffic Accidents In The Brazilian Federal District.
Oral and Poster Presentation (rescheduled for May 2023 due to COVID19 pandemic), 22th Triennial Meeting of the International Association of Forensic Sciences (IAFS), Sydney Australia.
Keywords: traffic collision, business intelligence, crash reconstruction, forensics science.
Knowledge areas: Computer Forensics, Big Data.

Accelerometer and Gyroscope Proposal to Improve Forensic Work in Brazil.
Oral and Poster Presentation, 21st Triennial Meeting of the International Association of Forensic Sciences (IAFS), Toronto, Canada.
Keywords: airbag, black box, traffic accident, EDR, accelerometer, gyroscope.
Knowledge areas: Forensics Science, Accident Reconstruction.

TECHNICAL SKILLS
Programming Languages and Softwares
- Php, C, CSS, HTML, Javascript, SQL, Python (Pytorch, TensorFlow, Keras, Scikit-Learn, Matplotlib, Pandas, NLTK, SpaCy).
- Tableau, Microsoft Power BI, SPSS, Matlab, Kibana, Docker, Wireshark, FTK Imager, Unity, Adobe Premier Pro, Photoshop.

Languages
- English (fluent), German (basic), Spanish (intermediate), Portuguese (native).

SOCIAL IMPACT
- Volunteer work: Taught English to local careless children from 7 to 12 years old (2020). Classes were online while in the COVID19 lockdown situation.
- Lectures about Vehicle Accident Prevention and Physics for high schoolers in 2020. Lectures were online while in a lockdown situation.
- Church volunteer work organization in 2008, 2009, and 2011: Delivered food and clothes to careless families.

OTHER INTERESTS
- Sports like soccer, badminton, and rowing. Joined Brasilia's Police Soccer Team in 2017's WPFG in Los Angeles. Engaged in Purdue's Rowing Team (2021).
- Photography and video editing.
- Books about psychology, neurology, and sociology.